INTERNATIONALSEARCHREPORT

International application No. PCT/JP2005/002378

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. H01L21/318, 21/316, 29/78

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl. H01L21/318, 21/316, 29/78

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Published examined utility model applications of Japan 1922-1996
Published unexamined utility model applications of Japan 1971-2005
Registered utility model specifications of Japan 1996-2005
Published registered utility model applications of Japan 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Category* JP 54-163679 A (Fujitsu Ltd.), 1979.12.26 1 - 14X page 2, lower left column, line 5 to 13 & EP 6706 A1 & US 4621277 A JP 5-251428 A (Oki Electric Industry Co., Ltd.) 1 - 14X 1993.09.28, column [0048], [0054], Fig. 5(B) (Family:none) JP 10-256539 A (Fujitsu Ltd.), 1998.09.25 1,4-14Х column [0039] to [0040], Fig. 3 to 6 & US 6215163 B1 JP 6-204465 A (Kawasaki Steel Corp.), 1994.07.22 1,4-14Х column [0023] to [0028], Fig. 3 to 4 (Family:none) Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: later document published after the international filing date or priority date and not in conflict with the application but cited to "A" document defining the general state of the art which is not understand the principle or theory underlying the invention considered to be of particular relevance earlier application or patent but published on or after the interdocument of particular relevance; the claimed invention cannot national filing date be considered novel or cannot be considered to involve an document which may throw doubts on priority claim(s) or which inventive step when the document is taken alone is cited to establish the publication date of another citation or other document of particular relevance; the claimed invention cannot special reason (as specified) be considered to involve an inventive step when the document is "O" document referring to an oral disclosure, use, exhibition or other combined with one or more other such documents, such combination being obvious to a person skilled in the art document published prior to the international filing date but later "&" document member of the same patent family than the priority date claimed Date of mailing of the international search report Date of the actual completion of the international search **17.** 5. 2005 25.04.2005 Name and mailing address of the ISA/JP Authorized officer 2929 Japan Patent Office Yoshimasa Waseda

Telephone No. +81-3-3581-1101 Ext. 3471